

REMARKS

This amendment is submitted in response to the Final Office Action mailed June 3, 2009. In view of the above claim amendments and the following remarks, reconsideration by the Examiner and allowance of the claims are respectfully requested.

Applicants have amended claims 1 and 15 and added new claims 20 – 24. Claims 1, 3, 4 and 11 – 24 are currently pending. Claims 2 and 5 – 10 are cancelled.

Claims 1 and 15 are amended to more particularly point out and distinctly claim the subject matter applicants regard as the invention. Specifically, claims 1 and 15 are amended to more distinctly claim that the high density polyethylene (HDPE) has the melt flow of bottle grade HDPE, the polycarbonate (PC) has the melt flow of injection molding grade PC, and the mixture of acrylonitrile-butadiene-styrene (ABS) and PC has the melt flow of injection molding grade mixtures of ABS and PC. The use of bottle grade HDPE is disclosed in the PCT specification at least on page 4, lines 7 – 9 and page 11, line 25. The use of injection molding grade PC is disclosed in the PCT specification at least at page 4, line 27. The use of injection molding grade ABS is disclosed in the PCT specification at least from page 4, line 30 to page 5, line 14 wherein articles injection molded from ABS are disclosed, from which the ABS is recycled for use in the presently claimed invention. The amendments to claims 1 and 15 therefore do not introduce new matter.

The use of the recycled materials of new claims 21 and 22 is disclosed in the PCT specification at least on page 4, lines 6 – 9; page 4, lines 20 – 23, and p. 5, lines 8 – 16. The blend of new claim 23 is disclosed in the PCT specification at least at page 4, lines 7 – 9, from page 4, line 30 to page 5, line 14, on page 11, line 25, and in FIG. 3 and the description thereof in the specification. The blend of new claim 24 is disclosed in the PCT specification at least at page 4, lines 7 – 9, at page 4, line 27, from page 4, line 30 to page 5, line 14, at page 11, line 25, and in FIGS. 4 and 5 and the descriptions thereof in the specification. Accordingly, no new matter was added by new claims 22 – 24.

The amendments and new claims narrow the scope of the claims by limiting the melt flows of the HDPE, PC and ABS used in the present invention to a narrower range within the scope of the subject matter of the previously pending claims so that the subject matter of the

amended claims and the new claims does not require burdensome searching on the part of the Examiner, and do not exceed the number of claims under final rejection. Instead, the amendments and new claims respond to the written description rejection made by the Examiner under 35 U.S.C. §112 and reduce the number of issues for consideration on appeal, for which entry is permitted under 37 C.F.R. §1.116. Accordingly, entry of the amendments for purposes of appeal in the event the claims are not deemed to be in condition for allowance is respectfully requested.

However, for reasons which are submitted below, the claims are believed to be in condition for allowance. The claim amendments and new claims are believed to resolve the concerns raised by the Examiner. Accordingly, reconsideration is respectfully requested. In the event any issues remain outstanding, the Examiner is requested to telephone the undersigned at the below-listed telephone number so that their resolution may be discussed.

Turning to the Office Action, claims 1, 3, 4, 7–9 and 11–19 are rejected under 35 U.S.C. §112 first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action alleges that “[f]igure 5 shows a small portion of the composition range barely meeting applicants requirements [and] those skilled in the art would not assume that applicants were in possession of the concept of compositions having applicants “additive contribution” characteristic for other melt flow rates besides those associated with the materials of Figure 5.” The Examiner questioned whether a blend of HDPE with a melt flow of 0.9 and PC with a melt flow of 1.1 have a modulus greater than the additive contribution of each polymer to overall stiffness. The Office Action concludes that Applicants’ combination of limitations regarding melt flow, concentrations and “additive contribution” are new matter. This rejection is respectfully traversed in view of the above claim amendments and new claims for the following reasons.

To more particularly point out and distinctly claim their invention, Applicants have amended claims 1 and 15 to specify that the HDPE has a melt flow rate of bottle grade HDPE and the PC and mixture of ABS and PC have a melt flow rate of injection molding grade PC and mixture of ABS and PC, respectively. The specification discloses that blends of bottle grade HDPE with injection molding grade PC, ABS and mixtures thereof have the properties disclosed in FIGS. 3–5. A person with ordinary skill in the art at the time the instant invention was made understood the terms “bottle grade” with respect to HDPE and “injection molding grade” with

respect to PC, ABS and mixtures thereof to refer to materials having certain melt flow rates and other standard physical characteristics. (See Exhibits A-D).

It is well-settled that there is no *in haec verba* requirement and claim limitations may be supported through implicit or inherent disclosure. See e.g. MPEP 2163(I)(B). The instant specification discloses bottle grade HDPE and injection molding grade PC and ABS as preferred materials for the claimed blends. As evidenced by Exhibits A – D, the range of melt flow rates of these grades of HDPE, PC, ABS and mixtures of PC and ABS fall within the disclosed range of melt flow rates for the two polymer phases, namely the melt flow rate of less than 1 g/10 min at 190 °C/2.16 Kg for HDPE and the melt flow rate of greater than 1 g/10 min at 190 °C/2.16 Kg for PC and ABS/PC mixture. The examples disclose physical properties of blends of bottle grade HDPE with PC, ABS and mixtures thereof obtained from recycled injection molded articles, from which modulus data is presented in FIGS. 3 – 5.

The claimed blends have a modulus greater than the additive contribution of each polymer to overall stiffness due to the melt flow rate differences between the polymers in the claimed blends. While the melt flow rates of the polymers in question are measured under different testing conditions per ASTM D1238 (See Exhibit E), the instant specification and Exhibits A-C make it clear that bottle grade HDPE has a fractional melt flow, i.e. significantly below 1.0 gm/ 10 min, while the injection molding grades of PC, ABS, and mixtures thereof have melt flow rates that are above 1.0 gm/ 10 gm under comparable testing conditions. This difference in melt flow rates produces the unexpected results depicted in FIGS. 3-5.

The pending claims have been amended and new claims 23 and 24 presented with limitations narrowing the claims to precisely what is depicted in FIGS. 3 – 5, i.e., HDPE with the melt flow of bottle grade HDPE blended with PC and/or ABS with the melt flow of injection molding grades of these polymers, at ratios of HDPE to PC and/or ABS within which the blend has a modulus greater than the additive contribution of each polymer to overall stiffness. Because the claims are limited to the ratios of the polymer grades producing the disclosed results in a manner consistent with the description in the specification, which includes the drawing figures, the written description requirement is satisfied. That is, one of ordinary skill in the art at the time the invention was made would have understood that Applicants were fully in possession of the invention as presently claimed.

Therefore, by amending Claims 1 and 15 to limit the claims to melt flow grades of polymers used to generate the data for the Examples and drawing figures, the rejection of remaining claims 1, 3, 4 and 11 – 19 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement has thus been overcome. New claims 20 – 24 also implicitly and expressly contain these limitations. Reconsideration by the Examiner and withdrawal of the written description rejection of claims 1, 3, 4 and 11 – 19, and favorable consideration and allowance of new claims 20 – 24 is therefore respectfully requested.

CONCLUSION

In view of the above claim amendments and the foregoing remarks, this application is now in condition for allowance. Reconsideration is respectfully requested. However, the Examiner is reminded to telephone the undersigned if there are any remaining issues in this application to be resolved.

Finally, if there are any additional charges in connection with this response, the Examiner is authorized to charge Applicant's deposit account number 50-1943 therefor.

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Respectfully submitted

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